

# SEQUENCE LISTING

<110> Evans, Glen A.  
Jewell, Sally  
Ware, Mark

<120> Enhanced Variants of Erythropoietin and  
Methods of Use

<130> 66663-066

<150> US 10/291,847

<151> 2002-11-08

<160> .226

<170> FastSEQ for Windows Version 4.0

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<212> DNA

<213> Homo sapiens

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<221> CDS

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Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu  
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Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu  
25 30 35 40

aat att act gta ccg gat acg aaa gtc aac ttt tat gcc tgg aaa cga 258  
Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg  
45 50 55

atg gaa gtt gga caa cag gcg gtg gaa gtt tgg cag ggg ctt gcc ctg 306  
Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu  
60 65 70

ttg tcg gag gca gtc ctg cgg ggt caa act tta ctg gta aat tcc agt 354  
Leu Ser Glu Ala Val Leu Arg Gly Gln Thr Leu Leu Val Asn Ser Ser  
75 80 85

cag cct tgg gaa cca tta cag ttg cac gtg gat aag gcg gtt tct ggc 402

Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly  
 90 95 100  
 ctg cgc agc ctt acc acg ctg ctc cgt gca ctg ggt gcc caa aaa gaa 450  
 Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu  
 105 110 115 120  
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 Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile  
 125 130 135  
 aca gcc gat acc ttc cgt aaa ctg ttt cgc gtc tac tcc aac ttc ttg 546  
 Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu  
 140 145 150  
 cgt ggc aaa ctg aaa ctt tat acg ggt gag gct tgt cgc tga 588  
 Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg \*  
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 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa tat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gtg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Val Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg tcg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Ser Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
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Gly Glu Ala Cys Arg *	
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			20					25						30		
Ala	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
			35					40					45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
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Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	
				85					90					95		
His	Val	Asp	Lys	Val	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
			100					105						110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Ser	Pro	Asp	Ala	Ala	
			115					120					125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	
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Phe	Arg	Val	Tyr	Ala	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr	
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<220>

<221> CDS

<222> (1)...(498)

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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys	
			20					25						30		
gta	gaa	gat	tgc	tca	ctg	aac	gag	aat	att	act	gta	ccg	gat	acg	aaa	144
Val	Glu	Asp	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
			35					40					45			
gtc	aac	ttt	tat	gcc	cgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Asn	Phe	Tyr	Ala	Arg	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
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gaa	att	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240
Glu	Ile	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	

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caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg				288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc				336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc				384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg				432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg				480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
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ggg gag gct tgt cgc tga				498
Gly Glu Ala Cys Arg *				
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Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val				
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Glu Ile Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly				
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Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
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Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
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Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
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 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
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 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
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 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta agt tcc agt cag tct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
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 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
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 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
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 35 40 45  
 gtc aac att tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Ile	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
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Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
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His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
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Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
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tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432	
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Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr		
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Gly	Glu	Ala	Cys	Arg	*												
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<210> 10  
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 35 40 45  
 Val Asn Ile Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Leu Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
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 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu



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Gly Glu Ala Cys Arg					
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aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gta gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Val Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cta tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Leu Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 12

<211> 165

<212> PRT

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<400> 12

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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Val	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40						45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55					60				
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Leu	Leu	Gln	Leu
			85					90						95	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100					105					110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115					120					125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
		130				135					140				
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
					165										

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<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 13

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aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		

48

96

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gct tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 14  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 14

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
. 1 5 10 15	
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	

His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100					105					110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115					120					125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
		130				135					140				
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 15  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 15																
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Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Ala	Leu	Glu	
1				5					10					15		
aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt															96	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys	
			20					25					30			
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa															144	
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35					40					45				
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg															192	
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt															240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
	65				70				75					80		
caa act tta ctg gta aat tcc agt cag cct agg gaa caa tta cag ttg															288	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Arg	Glu	Gln	Leu	Gln	Leu	
			85					90					95			
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc															336	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
		100						105					110			
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc															384	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	
		115					120					125				
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg															432	

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 16  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Arg Glu Gln Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 17  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 17  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ttc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Phe Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag att att act gta ccg gat ccg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Pro Lys	
35 40 45	
gtc aac ctt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 18  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
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 Arg Tyr Leu Phe Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Pro Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60	
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly			
65	70	75	80		
Gln Thr Leu Leu Val	Ile Ser Ser Gln Pro	Trp Glu Pro Leu Gln Leu			
	85	90	95		
His Val Asp Lys Ala	Val Ser Gly Leu Arg	Ser Leu Thr Thr Leu Leu			
	100	105	110		
Arg Ala Leu Gly Ala	Gln Lys Glu Ala Ile	Ser Pro Pro Asp Ala Ala			
	115	120	125		
Ser Ala Ala Pro Leu	Arg Thr Ile Thr Ala	Asp Thr Phe Arg Lys Leu			
	130	135	140		
Phe Arg Val Tyr Ser	Asn Phe Leu Arg Gly	Lys Leu Lys Leu Tyr Thr			
145	150	155	160		
Gly Glu Ala Cys Arg					
	165				

<210> 19  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 19	
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1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg caa ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctt aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 20  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
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 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 21  
 <211> 499  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (2)...(499)



<400> 21

c atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 49  
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 97  
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
20 25 30

gaa gaa tat tgc tca ctg aac gag att att act gta ccg gat tcg aaa 145  
Glu Glu Tyr Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Ser Lys  
35 40 45

gtc aac ttg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 193  
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 241  
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
65 70 75 80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 289  
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 337  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 385  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 433  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 481  
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
145 150 155 160

ggg gag gct tgt cgc tga 499  
Gly Glu Ala Cys Arg \*  
165

<210> 22

<211> 165

<212> PRT

<213> Homo sapiens

<400> 22

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                  25                  30  
 Glu Glu Tyr Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Ser Lys  
                   35                  40                  45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65                                  70                                  75                                  80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                                   85                                  90                                  95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                                   100                                  105                                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                                  120                                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                   130                                  135                                  140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145                                  150                                  155                                  160  
 Gly Glu Ala Cys Arg  
                                   165

<210> 23  
 <211> 499  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (2)...(499)

<400> 23  
 c atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 49  
   Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
     1                                  5                                  10                                  15  
  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 97  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                                  25                                  30  
  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat ccg aaa 145  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Pro Lys  
                   35                                  40                                  45  
  
 gtc aac ttg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 193  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                                  55                                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 241  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
                   65                                  70                                  75                                  80  
  
 caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 289  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                                   85                                  90                                  95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 337  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 385  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 433  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 481  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 499  
 Gly Glu Ala Cys Arg \*  
 165

<210> 24  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 24  
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 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Pro Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 25  
 <211> 499  
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (2)...(499)

<400> 25

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1

5

10

15

aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt 97  
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys

20

25

30

gca gaa cat tgc tta ctg aac gag aat att act gta ccg gat acg aaa 145  
Ala Glu His Cys Leu Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys

35

40

45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 193  
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val

50

55

60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 241  
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly

65

70

75

80

caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg 289  
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu

85

90

95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 337  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu

100

105

110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 385  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala

115

120

125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 433  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu

130

135

140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg 481  
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr

145

150

155

160

ggg gag gct tgt cgc tga 499  
Gly Glu Ala Cys Arg \*

165

<210> 26

<211> 165

<212> PRT

<213> Homo sapiens

<400> 26

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys	
			20					25						30		
Ala	Glu	His	Cys	Leu	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35					40						45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
65					70					75				80		
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	
			85						90					95		
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
		100						105					110			
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	
	115						120					125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	
	130					135					140					
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr	
145					150					155					160	
Gly	Glu	Ala	Cys	Arg												
				165												

<210> 27

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 27

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Met	Asp	Ile	Val	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1				5					10					15		
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt	96
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys	
			20					25						30		
gta	gaa	gat	tgc	tca	ctg	aac	gag	aat	att	act	gta	ccg	gat	ccg	aaa	144
Val	Glu	Asp	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Pro	Lys	
		35					40						45			
gtc	aac	ttt	tat	gcc	tgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	

65	70	75	80	
caa act tta ctg gta aat tcc agt cag tct ggg gaa cga tta cag ttg				288
Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Gly Glu Arg Leu Gln Leu				
	85	90	95	
cac gtg gat aag gcg gtt tct gga ctg cgc agc ctt acc acg ctg ctc				336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc				384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg				432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg				480
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
	145	150	155	160
ggg gag gct tgt cgc tga				498
Gly Glu Ala Cys Arg *				
	165			

<210> 28  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 28

Met Asp Ile Val Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu				
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys				
	20	25	30	
Val Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Pro Lys				
	35	40	45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val				
	50	55	60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly				
65	70	75	80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Gly Glu Arg Leu Gln Leu				
	85	90	95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 29  
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 <212> DNA  
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<220>  
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 <222> (1)...(498)

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aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60

gaa gtt tgg cag ggg ttt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Phe Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 30  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Phe Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 31  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 31  
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 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192



Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75					80			
caa	act	tta	ctg	gta	aat	tcc	agt	cag	cct	tgg	gaa	cca	tta	cag	ttg	288	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100				105						110				
cgt	gca	ctg	ggg	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115				120						125					
tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
		130				135					140						
ttt	cgc	gtc	tac	tcc	aac	ttc	ttg	cgt	agc	aaa	ctg	aaa	ctt	tat	acg	480	
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Ser	Lys	Leu	Lys	Leu	Tyr	Thr		
145					150				155					160			
ggg	gag	gct	tgt	cgc	tga											498	
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 32  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu

130		135		140
Phe Arg Val Tyr Ser	Asn Phe Leu Arg Ser	Lys Leu Lys Leu Tyr Thr		
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 33  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
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 <222> (1)...(498)

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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30

gca gaa cat tgc tca ctg aat gag aat att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125

tca aca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Thr Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 34

<211> 165

<212> PRT

<213> Homo sapiens

<400> 34

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40						45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55				60					
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
			85					90					95		
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
		100					105					110			
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
	115					120					125				
Ser	Thr	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130				135					140					
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr
145					150				155					160	
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 35

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 35

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1				5					10					15	
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		

48

96

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
aaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Lys Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gtt tgt cgc tga	498
Gly Glu Val Cys Arg *	
165	

<210> 36  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
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 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Lys Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95

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His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
      100                      105                      110
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
      115                      120                      125
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
      130                      135                      140
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
      145                      150                      155                      160
Gly Glu Val Cys Arg
                      165

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<210> 37
<211> 498
<212> DNA
<213> Homo sapiens

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<220>
<221> CDS
<222> (1)...(498)

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<400> 37
atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa      48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
  1              5              10              15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt      96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20              25              30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat tcg aaa      144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys
          35              40              45

gtc aac tta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg      192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50              55              60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt      240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
          65              70              75              80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg      288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
          85              90              95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc      336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
          100              105              110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc      384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
          115              120              125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg      432

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Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 38  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 38  
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 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 39  
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 <212> DNA  
 <213> Homo sapiens

<220>  
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 <222> (1)...(498)

<400> 39  
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 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag att att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg	480
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 40  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
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 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly		
65		70		80
Gln Thr Leu Leu Val	Asn Ser Ser Gln Pro	Trp Glu Pro Leu Gln Leu		
	85		90	95
His Val Asp Lys Ala Val	Ser Gly Leu Arg Ser	Leu Thr Thr Leu Leu		
	100		105	110
Arg Ala Leu Gly Ala Gln	Lys Glu Ala Ile Ser	Pro Pro Asp Ala Ala		
	115		120	125
Ser Ala Ala Pro Leu Arg	Thr Ile Thr Ala Asp	Thr Phe Arg Lys Leu		
	130		135	140
Phe Arg Val Tyr Ala Asn	Phe Leu Arg Gly Lys	Leu Lys Val Tyr Thr		
	145		150	155
Gly Glu Ala Cys Arg				160
	165			

<210> 41  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 41	
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Met Asp Ile Ala Pro Ser Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
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aga tac ctg ctc gaa gcg aaa gag gct gaa act atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys	
20 25 30	
gga gaa aat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Gly Glu Asn Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct ggg gaa cta tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Gly Glu Leu Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	



cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 42  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 42  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys  
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 Gly Glu Asn Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Gly Glu Leu Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 43  
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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 43

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aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys	
20 25 30	
gaa gaa tat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Glu Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc cgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag gct cgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Arg Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 44  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 44

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
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                   20                  25                  30  
 Glu Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
                   35                  40                  45  
 Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
  65                  70                  75                  80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Arg Glu Pro Leu Gln Leu  
                   85                  90                  95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                  100                 105                 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                  115                 120                 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                  130                 135                 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
  145                 150                 155                 160  
 Gly Glu Ala Cys Arg  
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<210> 45  
 <211> 498  
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<220>  
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<400> 45  
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   1                  5                  10                  15  
  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                  25                  30  
  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat gcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
                   35                  40                  45  
  
 gtc aac tta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
  65                  70                  75                  80  
  
 caa act tta ctg gta aat tcc agt cag act ggg gaa caa tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Thr Gly Glu Gln Leu Gln Leu  
                   85                  90                  95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 46  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 46															
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20 25 30															
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys															
35 40 45															
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val															
50 55 60															
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly															
65 70 75 80															
Gln Thr Leu Leu Val Asn Ser Ser Gln Thr Gly Glu Gln Leu Gln Leu															
85 90 95															
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu															
100 105 110															
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala															
115 120 125															
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu															
130 135 140															
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr															
145 150 155 160															
Gly Glu Ala Cys Arg															
165															

<210> 47  
 <211> 498  
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 47

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aga tac ctg ctt gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys	
20 25 30	
gca gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag tct cgg gaa cga tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Arg Glu Arg Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 48

<211> 165

<212> PRT

<213> Homo sapiens

<400> 48

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys
              20              25              30
Ala Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
              35              40              45
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
              50              55              60
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
65              70              75              80
Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Arg Glu Arg Leu Gln Leu
              85              90              95
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
              100             105             110
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
              115             120             125
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
              130             135             140
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
145             150             155             160
Gly Glu Ala Cys Arg
              165
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<210> 49

<211> 503

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 49

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1              5              10              15

aga tac ctg ctc gaa gcg aaa gag gct gaa act atc acc aca ggc tgt      96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys
              20              25              30

gta gaa tat tgc tca ctg aac gag aat att act gta ccg gat acg aaa     144
Val Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
              35              40              45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg     192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
              50              55              60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt     240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
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65	70	75	80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288			
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
85 90 95				
cac gtg gat aag gcg gtt ttt ggc ctg cgc agc ctt acc acg ctg ctc	336			
His Val Asp Lys Ala Val Phe Gly Leu Arg Ser Leu Thr Thr Leu Leu				
100 105 110				
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384			
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
115 120 125				
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432			
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
130 135 140				
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480			
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145 150 155 160				
ggt gag gct tgt cgc tga actct	503			
Gly Glu Ala Cys Arg *				
165				

<210> 50  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Phe Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
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 Gly Glu Ala Cys Arg  
 165

<210> 51  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
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 <222> (1)...(498)

<400> 51  
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 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat gcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
 35 40 45

gtc aac ttt tat gcc cgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg ccg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165



<210> 52  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 52  
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 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 53  
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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

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 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gta gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Val Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
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Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly																	
65					70				75						80		
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg 288																	
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu																	
				85				90						95			
cac gtg gat aag acg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336																	
His Val Asp Lys Thr Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu																	
			100				105					110					
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384																	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala																	
		115				120				125							
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432																	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu																	
		130				135				140							
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg 480																	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr																	
145					150				155						160		
ggt gag gct tgt cgc tga 498																	
Gly Glu Ala Cys Arg *																	
				165													

<210> 54  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 54

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys		
		20					25					30					
Val	Glu	Asp	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys		
		35				40					45						
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50					55				60								
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65				70				75					80				
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
			85				90						95				
His	Val	Asp	Lys	Thr	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
		100				105					110						
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115				120					125						
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		

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Gly Glu Ala Cys Arg				
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<210> 55  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
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<400> 55	
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aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta agt tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt ttt ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Phe Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 56

<211> 165

<212> PRT

<213> Homo sapiens

<400> 56

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40						45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55					60				
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Ser	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
			85				90							95	
His	Val	Asp	Lys	Ala	Val	Phe	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
		100					105						110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
	115					120					125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130				135					140					
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr
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Gly	Glu	Ala	Cys	Arg											
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<210> 57

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 57

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Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt
			20				25						30		
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg gaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Glu	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 58  
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 <213> Homo sapiens

<400> 58

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20 25 30	
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35 40 45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	

His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                                  105                                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                                  120                                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                   130                                  135                                  140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr  
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 Gly Glu Ala Cys Arg  
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 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                                  25                                  30  
  
 gca gaa cat tgc tca ctg aac gag att att act gta ccg gat ccg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Pro Lys  
                   35                                  40                                  45  
  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                                  55                                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
                   65                                  70                                  75                                  80  
  
 caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                   85                                  90                                  95  
  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                                  105                                  110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                                  120                                  125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr  
 145 150 155 160

ggg gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 60  
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<400> 60  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
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 Ala Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Pro Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc atc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Ile Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag act tgg gaa caa tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Thr Trp Glu Gln Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ctg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Leu Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac acc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg	480
Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
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<210> 62  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
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 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Ile Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val



50		55		60
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly		
65		70		80
Gln Thr Leu Leu Val	Asn Ser Ser Gln Thr	Trp Glu Gln Leu Gln Leu		
	85		90	95
His Val Asp Lys Ala Val	Ser Gly Leu Arg Ser	Leu Thr Thr Leu Leu		
	100		105	110
Arg Ala Leu Gly Ala Gln	Lys Glu Ala Ile Ser	Pro Pro Asp Ala Ala		
	115		120	125
Ser Ala Ala Leu Leu Arg	Thr Ile Thr Ala Asp	Thr Phe Arg Lys Leu		
	130		135	140
Phe Arg Val Tyr Thr	Asn Phe Leu Arg Gly	Lys Leu Lys Val Tyr Thr		
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Gly Glu Ala Cys Arg				160
	165			

<210> 63  
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<220>  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60

gaa gtt tgg cag gga ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80

caa act tta ctg gta act tcc agt cag gct cgg gaa cga tta cag ttg 288  
 Gln Thr Leu Leu Val Thr Ser Ser Gln Ala Arg Glu Arg Leu Gln Leu  
 85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att acg gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
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<210> 64  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

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 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Thr Ser Ser Gln Ala Arg Glu Arg Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
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1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
20 25 30

gga gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
Gly Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
65 70 75 80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
130 135 140

ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg 480  
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
145 150 155 160

ggg gag gct tgt cgc tga 498  
Gly Glu Ala Cys Arg \*  
165

<210> 66  
<211> 165  
<212> PRT  
<213> Homo sapiens

<400> 66  
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
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 Gly Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
                   35                                  40                                  45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                                  55                                  60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65                                  70                                  75                                  80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                                   85                                  90                                  95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                                  105                                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                                  120                                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130                                  135                                  140  
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 145                                  150                                  155                                  160  
 Gly Glu Ala Cys Arg  
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<220>  
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 <222> (1)...(498)

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 aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
                   20                                  25                                  30  
  
 gca gaa cat tgc tca ctg aac gag agt att act gta ccg gat gcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Ala Lys  
                   35                                  40                                  45  
  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                                  55                                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
                   65                                  70                                  75                                  80  
  
 caa act tta ctg gta aat tcc agt cag gct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Trp Glu Pro Leu Gln Leu  
                   85                                  90                                  95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac acc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt ccc tga 498  
 Gly Glu Ala Cys Pro \*  
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<210> 68  
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<400> 68  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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 Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Ala Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
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 Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
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 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
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<220>

<221> CDS

<222> (1)...(498)

<400> 69

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac gtc tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg	480
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 70

<211> 165

<212> PRT

<213> Homo sapiens

<400> 70

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 1           5           10           15
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20           25           30
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
          35           40           45
Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50           55           60
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
65           70           75           80
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
          85           90           95
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
          100          105          110
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
          115          120          125
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
          130          135          140
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr
145          150          155          160
Gly Glu Ala Cys Arg
          165
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<210> 71

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 71

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1           5           10           15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt      96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20           25           30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa      144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
          35           40           45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg      192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50           55           60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt      240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
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65	70	75	80	
caa act tta ctg gta agt tcc agt cag cct tgg gaa cca tta cag ttg				288
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc				336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc				384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
tca gca gcg ccg tta cgt act att aca gcc gat acc ttc cgt aaa ctg				432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg				480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr				
145	150	155	160	
ggt gag gct tgt cgc tga				498
Gly Glu Ala Cys Arg *				
	165			

<210> 72  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 72

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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys				
	20	25	30	
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys				
	35	40	45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val				
	50	55	60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly				
65	70	75	80	
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr				
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			



<210> 73  
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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30

gaa gaa aat tgc tca ctg aac gag agt att act gta ccg gat acg aaa 144  
 Glu Glu Asn Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys  
 35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80

caa act tta ctg gta att tcc agt cag tct cgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Ser Arg Glu Pro Leu Gln Leu  
 85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg 480  
 Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr  
 145 150 155 160

ggg gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 74  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 74  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
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 Glu Glu Asn Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Ser Arg Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 75  
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 <212> DNA  
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<220>  
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 <222> (1)...(498)

<400> 75  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgt tca ctg aac gag aat att act gta ccg gat tcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 gtc aac ttg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75					80			
caa	act	tta	ctg	gta	att	tcc	agt	cag	cct	tgg	gaa	cca	tta	cag	ttg	288	
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100				105						110				
cgt	gca	ctg	ggg	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115				120						125					
tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cg	aaa	ctg	432	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
		130				135					140						
ttt	cg	gtc	tac	acc	aac	ttc	ttg	cg	ggc	aaa	ctg	aaa	ctt	tat	acg	480	
Phe	Arg	Val	Tyr	Thr	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr		
145					150				155					160			
ggg	gag	gct	tgt	cg	tga											498	
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 76  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 76  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu

130		135		140
Phe Arg Val Tyr Thr	Asn Phe Leu Arg Gly	Lys Leu Lys Leu Tyr Thr		
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 77  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 77

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gta gaa tat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Val Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag gct agg gaa caa tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Arg Glu Gln Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca acg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Thr Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg	480
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 78

<211> 165

<212> PRT

<213> Homo sapiens

<400> 78

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Val	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40						45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55					60				
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Ala	Arg	Glu	Gln	Leu	Gln	Leu
			85					90						95	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100					105					110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115					120					125			
Ser	Ala	Thr	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130					135					140				
Phe	Arg	Val	Tyr	Ala	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Ile	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 79

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 79

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa
1				5					10					15	
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
			20					25						30	

48

96

gga gaa cat tgc tca ctg aac gag act att act gta ccg gat acg aaa	144
Gly Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta act tcc agt cag tct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Thr Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 80  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 80  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Gly Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Thr Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu  
 85 90 95

His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100					105						110	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
			115					120						125	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
			130					135						140	
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Ile	Tyr	Thr
					150					155					160
Gly	Glu	Ala	Cys	Arg											
															165

<210> 81  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 81																
atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa	48
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1				5					10					15		
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	act	atc	acc	aca	ggc	tgt	96
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys	
			20					25						30		
gca	gaa	cat	tgc	tca	ctg	aac	gag	aat	att	act	gta	ccg	gat	acg	aaa	144
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35					40					45				
gtc	aac	ttt	tat	gcc	tgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
	65				70				75					80		
caa	act	tta	ctg	gta	aat	tcc	agt	cag	tct	tgg	gaa	cca	tta	cag	ttg	288
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Ser	Trp	Glu	Pro	Leu	Gln	Leu	
				85				90						95		
cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
			100					105						110		
cgt	gca	ctg	ggg	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	
			115					120						125		
tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga  
 Gly Glu Ala Cys Arg \* 498  
 165

<210> 82  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 82  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 83  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 83  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15



aga tac ctg ttc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Phe Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gaa gaa aat tgc tca ctg aac gag agt att act gta ccg gat acg aaa	144
Glu Glu Asn Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cta tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Leu Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 84  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Phe Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Glu Glu Asn Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly		
65		70		80
Gln Thr Leu Leu Val	Asn Ser Ser Gln Pro	Trp Glu Leu Leu Gln Leu		
	85		90	95
His Val Asp Lys Ala Val	Ser Gly Leu Arg Ser	Leu Thr Thr Leu Leu		
	100		105	110
Arg Ala Leu Gly Ala Gln	Lys Glu Ala Ile Ser	Pro Pro Asp Ala Ala		
	115		120	125
Ser Ala Ala Pro Leu Arg	Thr Ile Thr Ala Asp	Thr Phe Arg Lys Leu		
	130		135	140
Phe Arg Val Tyr Ser Asn	Phe Leu Arg Gly Lys	Leu Lys Leu Tyr Thr		
145		150		155
Gly Glu Ala Cys Arg				160
	165			

<210> 85  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 85	
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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa att atc act aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat gcg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys	
35 40 45	
gtc aac cta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
aaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Lys Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	

cg	gt	gca	ctg	ggt	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115						120					125				
tca	gca	gcg	ccg	tta	tgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg		432
Ser	Ala	Ala	Pro	Leu	Cys	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
		130					135					140					
ttt	cgc	gtc	tac	tcc	aac	ttc	ttg	cgt	ggc	aaa	ctg	aaa	ctt	tat	acg		480
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr		
		145			150					155					160		
ggt	gag	gct	tgt	cgc	tga												498
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 86  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 86																	
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
1				5					10					15			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys		
		20					25						30				
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Ala	Lys		
		35				40						45					
Val	Asn	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
	50					55				60							
Lys	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65				70					75					80			
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
			85					90						95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
		100					105						110				
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
	115						120					125					
Ser	Ala	Ala	Pro	Leu	Cys	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
	130					135					140						
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr		
145					150					155					160		
Gly	Glu	Ala	Cys	Arg													
				165													

<210> 87  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 87  
atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
20 25 30

gca gaa tat tgc tca ctg aac gag act att act gta ccg gat tcg aaa 144  
Ala Glu Tyr Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Ser Lys  
35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
65 70 75 80

caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg 288  
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
130 135 140

ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
145 150 155 160

ggt gag gct tgt cgc tga 498  
Gly Glu Ala Cys Arg \*  
165

<210> 88  
<211> 165  
<212> PRT  
<213> Homo sapiens

<400> 88  
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
1 5 10 15

Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20						25						30	
Ala	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Thr	Ile	Thr	Val	Pro	Asp	Ser	Lys
		35						40						45	
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
		50						55						60	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65					70					75					80
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
				85					90						95
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100						105					110	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115						120						125	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
		130					135							140	
Phe	Arg	Val	Tyr	Ala	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 89  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 89																
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Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1				5					10					15		
aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt															96	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ser	Ile	Thr	Thr	Gly	Cys	
			20					25						30		
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat tcg aaa															144	
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Ser	Lys	
			35					40						45		
gtc aac atg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg															192	
Val	Asn	Met	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
		50					55				60					
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt															240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
		65			70				75					80		
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg															288	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	
				85					90					95		

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 90  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 90  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 Val Asn Met Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 91  
 <211> 498  
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 91

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtt aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg	480
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 92

<211> 165

<212> PRT

<213> Homo sapiens

<400> 92

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1           5           10           15
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20           25           30
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
          35           40           45
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50           55           60
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
65           70           75           80
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
          85           90           95
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
          100          105          110
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
          115          120          125
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
          130          135          140
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr
145          150          155          160
Gly Glu Ala Cys Arg
          165
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<210> 93

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 93

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atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa      48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1           5           10           15

aga cac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt      96
Arg His Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20           25           30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat tcg aaa      144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys
          35           40           45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg      192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50           55           60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt      240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
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65	70	75	80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg				288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc				336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc				384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg				432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat aca				480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
	145	150	155	160
ggt gag gct tgt cgc tga				498
Gly Glu Ala Cys Arg *				
	165			

<210> 94  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 94

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu				
1	5	10	15	
Arg His Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys				
	20	25	30	
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys				
	35	40	45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val				
	50	55	60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly				
65	70	75	80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 95  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 95  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa aat tgc tca ctg aac gag att att act gta ccg gat acg aaa 144  
 Ala Glu Asn Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta aat tcc agt cag act tgg gaa caa tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Thr Trp Glu Gln Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 96  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 96  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu Asn Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Thr Trp Glu Gln Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 97  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 97  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggt	240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75					80			
caa	act	tta	ctg	gta	aat	tcc	agt	cag	cct	tgg	gaa	cca	tta	cag	ttg	288	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100				105						110				
cgt	gca	ctg	ggt	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115				120						125					
tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cg	aaa	ctg	432	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
		130				135					140						
ttt	cg	gtc	tac	tcc	aac	ttc	ttg	cg	ggc	aaa	ctg	aaa	ttt	tat	acg	480	
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr		
145					150				155					160			
ggt	gag	gct	tgt	cg	tga											498	
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 98  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 98

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys		
		20				25						30					
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys		
		35				40					45						
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55				60							
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75					80			
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
		100				105						110					
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115				120						125					
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		

130		135		140
Phe Arg Val Tyr Ser	Asn Phe Leu Arg Gly	Lys Leu Lys Phe Tyr Thr		
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 99  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 99

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta cca gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 100

<211> 165

<212> PRT

<213> Homo sapiens

<400> 100

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40					45				
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55				60					
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
			85				90						95		
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
		100					105					110			
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115				120					125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130				135					140					
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr
145					150				155					160	
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 101

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 101

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa
1			5						10				15		
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25					30			

48

96

gta gaa cat tgc tca ctg aac gag att att act gta ccg gat ccg aaa	144
Val Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Pro Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 102  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 102  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Val Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Pro Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95

His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 103  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 103  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30  
 gta gaa cat tgc tca ctg aac gag act att act gta ccg gat acg aaa 144  
 Val Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta agt tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg tgc agc ttt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Cys Ser Phe Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432



Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggg gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 104  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 104  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30  
 Val Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Cys Ser Phe Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 105  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 105  
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 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa aat tgc tca ctg aac gag att att act gta ccg gat tcg aaa	144
Ala Glu Asn Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Ser Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct ggg gaa cta tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Gly Glu Leu Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 106  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 106  
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 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu Asn Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60	
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly			
65		70		75	80
Gln Thr Leu Leu Val	Asn Ser Ser Gln Pro	Gly Glu Leu Leu Gln Leu			
	85		90		95
His Val Asp Lys Ala Val	Ser Gly Leu Arg Ser	Leu Thr Thr Leu Leu			
	100		105		110
Arg Ala Leu Gly Ala Gln	Lys Glu Ala Ile Ser	Pro Pro Asp Ala Ala			
	115		120		125
Ser Ala Ala Pro Leu Arg	Thr Ile Thr Ala Asp	Thr Phe Arg Lys Leu			
	130		135		140
Phe Arg Val Tyr Ser Asn	Phe Leu Arg Gly Lys	Leu Lys Leu Tyr Thr			
	145		150		155
Gly Glu Ala Cys Arg					160
	165				

<210> 107  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 107	
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1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys	
20 25 30	
gga gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Gly Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	

cg	gt	gca	ctg	gg	t	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala			
		115					120						125					
tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg		432	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu			
		130				135					140							
ttt	cgc	gtc	tac	tcc	aac	ttc	ttg	cgt	ggc	aaa	ctg	aaa	ctt	tat	acg		480	
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr			
		145			150				155					160				
gg	t	gag	gct	tgt	cgc	tga											498	
Gly	Glu	Ala	Cys	Arg	*													
				165														

<210> 108  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 108																	
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
1				5					10					15			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys		
		20					25						30				
Gly	Glu	Asp	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys		
		35				40						45					
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
	50					55				60							
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65				70					75					80			
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
			85				90						95				
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
		100					105						110				
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115				120						125					
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
	130				135					140							
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr		
145				150					155					160			
Gly	Glu	Ala	Cys	Arg													
				165													

<210> 109  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 109

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa	48
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1				5					10					15		

aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	agt	atc	acc	aca	ggc	tgt	96
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ser	Ile	Thr	Thr	Gly	Cys	
		20						25						30		

gaa	gaa	tat	tgc	tca	ctg	aac	gag	aat	att	act	gta	ccg	gat	acg	aaa	144
Glu	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35					40					45				

gtc	agc	ttg	tat	gcc	tgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Ser	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					

gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggc	240
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
65					70				75					80		

caa	act	tta	ctg	gta	aat	tcc	agt	cag	cct	ggg	gaa	cta	tta	cag	ttg	288
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Gly	Glu	Leu	Leu	Gln	Leu	
				85				90						95		

cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
			100					105						110		

cgt	gca	ctg	ggc	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	
		115					120					125				

tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	
		130				135					140					

ttt	cgc	gtc	tac	acc	aac	ttc	ttg	cgt	ggc	aaa	ctg	aaa	ctt	tat	acg	480
Phe	Arg	Val	Tyr	Thr	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr	
145					150				155					160		

ggc	gag	gct	tgt	cgc	tga											498
Gly	Glu	Ala	Cys	Arg	*											
				165												

<210> 110

<211> 165

<212> PRT

<213> Homo sapiens

<400> 110

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	

Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
                   20                  25                  30  
 Glu Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
                   35                  40                  45  
 Val Ser Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65                  70                  75                  80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Gly Glu Leu Leu Gln Leu  
                   85                  90                  95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                  105                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                  120                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                   130                  135                  140  
 Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145                  150                  155                  160  
 Gly Glu Ala Cys Arg  
                   165

<210> 111  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 111  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
   1                  5                  10                  15  
  
 aga tac ctg ctc gaa gcg aaa gag gct gaa act atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys  
                   20                  25                  30  
  
 gga gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Gly Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
                   35                  40                  45  
  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
                   65                  70                  75                  80  
  
 caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                   85                  90                  95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg 480  
 Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 112  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 112  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys  
 20 25 30  
 Gly Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 113  
 <211> 498  
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 113

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa act atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ctt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta agt tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gtt atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Val Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 114

<211> 165

<212> PRT



<213> Homo sapiens

<400> 114

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys	
		20					25						30			
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35				40					45					
Val	Asn	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55				60						
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
65					70				75					80		
Gln	Thr	Leu	Leu	Val	Ser	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	
			85					90					95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
		100					105						110			
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Val	Ile	Ser	Pro	Pro	Asp	Ala	Ala	
		115				120						125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	
		130				135					140					
Phe	Arg	Val	Tyr	Pro	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr	
145					150					155					160	
Gly	Glu	Ala	Cys	Arg												
				165												

<210> 115

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 115

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa	48
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1			5				10						15			
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	att	atc	acc	aca	ggc	tgt	96
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys	
		20					25						30			
gta	gaa	tat	tgc	tca	ctg	aac	gag	aat	att	act	gta	ccg	gat	acg	aaa	144
Val	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35				40					45					
gtc	aac	ttt	tat	gcc	tgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55				60						
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	

65	70	75	80	
caa act tta ctg gta aat tcc agt cag gct ggg gaa cga tta cag ttg	288			
Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Gly Glu Arg Leu Gln Leu				
85 90 95				
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336			
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
100 105 110				
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384			
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
115 120 125				
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432			
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
130 135 140				
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480			
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145 150 155 160				
ggt gag gct tgt cgc tga	498			
Gly Glu Ala Cys Arg *				
165				

<210> 116  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 116

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys	
20 25 30	
Val Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Gly Glu Arg Leu Gln Leu	
85 90 95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
Gly Glu Ala Cys Arg	
165	

<210> 117  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 117  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30  
 gga gaa cat tgc tca ctg aac gag act att act gta ccg gat tcg aaa 144  
 Gly Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 gtc aac gtt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 118  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 118  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30  
 Gly Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 119  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 119  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag agt att act gta ccg gat tcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 gtc aac ttg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240																	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70					75				80			
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288																	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336																	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384																	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
			115				120						125				
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432																	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
			130				135					140					
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480																	
Phe	Arg	Val	Tyr	Ala	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr		
145					150					155				160			
ggt gag gct tgt cgc tga 498																	
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 120  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 120

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
1				5					10					15			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys		
			20					25					30				
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Ser	Ile	Thr	Val	Pro	Asp	Ser	Lys		
			35				40					45					
Val	Asn	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70					75				80			
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
			115				120						125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		

130		135		140
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145		150		155
Gly Glu Ala Cys Arg				160
	165			

<210> 121  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
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<400> 121

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
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aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac acc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg	480
Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 122

<211> 165

<212> PRT

<213> Homo sapiens

<400> 122

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Ala	Glu	Asp	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40					45				
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55				60					
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
			85					90						95	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
		100					105						110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115				120						125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130					135					140				
Phe	Arg	Val	Tyr	Thr	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 123

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 123

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1				5					10					15	
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	att	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys
			20				25						30		

48

96

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct cgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Arg Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 124  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 124  
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 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
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 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Arg Glu Pro Leu Gln Leu  
 85 90 95



His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
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 Gly Glu Ala Cys Arg  
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<210> 125  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 125  
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 aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30  
 gta gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Val Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta agt tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 126  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 126  
 Met Asp Ile Ala Ser Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
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 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
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 Gly Glu Ala Cys Arg  
 165

<210> 127  
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 <213> Homo sapiens

<220>  
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 <222> (1)...(498)

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 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys	
20 25 30	
gca gaa tat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa att tat acg	480
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 128  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 128  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60	
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly			
65		70		75	80
Gln Thr Leu Leu Val	Asn Ser Ser Gln Pro	Trp Glu Pro Leu Gln Leu			
	85		90		95
His Val Asp Lys Ala	Val Ser Gly Leu Arg	Ser Leu Thr Thr Leu Leu			
	100		105		110
Arg Ala Leu Gly Ala	Gln Lys Glu Ala Ile	Ser Pro Pro Asp Ala Ala			
	115		120		125
Ser Ala Ala Pro Leu	Arg Thr Ile Thr Ala	Asp Thr Phe Arg Lys Leu			
	130		135		140
Phe Arg Val Tyr Pro	Asn Phe Leu Arg Gly	Lys Leu Lys Ile Tyr Thr			
145		150		155	160
Gly Glu Ala Cys Arg					
	165				

<210> 129  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 129

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gta gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Val Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg caa ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta act tcc agt cag cct tgg gaa tca tta cag ttg	288
Gln Thr Leu Leu Val Thr Ser Ser Gln Pro Trp Glu Ser Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	

[illegible]

<400> 131  
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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
20 25 30

gaa gaa tat tgc tca ctg aac gag aat att act gta ccg gat gcg aaa 144  
Glu Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
65 70 75 80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
145 150 155 160

ggt gag gct tgt cgc tga 498  
Gly Glu Ala Cys Arg \*  
165

<210> 132  
<211> 165  
<212> PRT  
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<400> 132  
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 Glu Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
                   35                  40                  45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65                  70                  75                  80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                   85                  90                  95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                  105                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                  120                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130                  135                  140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145                  150                  155                  160  
 Gly Glu Ala Cys Arg  
                   165

<210> 133  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 133  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
   1                  5                  10                  15  
  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                  25                  30  
  
 gca gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Ala Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
                   35                  40                  45  
  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
                   65                  70                  75                  80  
  
 caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                   85                  90                  95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
100 105 110  
  
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
115 120 125  
  
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
130 135 140  
  
ttt cgc gtc tac acc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg 480  
Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr  
145 150 155 160  
  
ggg gag gct tgt cgc tga 498  
Gly Glu Ala Cys Arg \*  
165

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<213> Homo sapiens

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Ala Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
35 40 45  
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
50 55 60  
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
65 70 75 80  
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
85 90 95  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
100 105 110  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
115 120 125  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
130 135 140  
Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr  
145 150 155 160  
Gly Glu Ala Cys Arg  
165

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<212> DNA



<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 135

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa tat tgc tca ctg aac gag agt att act gta ccg gat tcg aaa	144
Ala Glu Tyr Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Ser Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta agt tcc agt cag cct ggg gaa caa tta cag ttg	288
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Gly Glu Gln Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
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ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
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<210> 136

<211> 165

<212> PRT

<213> Homo sapiens

<400> 136

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 1           5           10           15
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20           25           30
Ala Glu Tyr Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Ser Lys
          35           40           45
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50           55           60
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
65           70           75           80
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Gly Glu Gln Leu Gln Leu
          85           90           95
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
          100          105          110
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
          115          120          125
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
          130          135          140
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
145          150          155          160
Gly Glu Ala Cys Arg
          165
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<210> 137

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 137

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Lys Val Leu Glu
 1           5           10           15

aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt      96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys
          20           25           30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa     144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
          35           40           45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg     192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50           55           60

gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt     240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
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65	70	75	80	
caa act tta ctg gta aat tcc agt cag act tgg gaa cta tta cag ttg				288
Gln Thr Leu Leu Val Asn Ser Ser Gln Thr Trp Glu Leu Leu Gln Leu				
	85	90	95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc				336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc				384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg				432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg				480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
	145	150	155	160
ggt gag gct tgt cgc tga				498
Gly Glu Ala Cys Arg *				
	165			

<210> 138  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 138 .

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Lys Val Leu Glu				
1	5	10	15	
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys				
	20	25	30	
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys				
	35	40	45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val				
	50	55	60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly				
65	70	75	80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Thr Trp Glu Leu Leu Gln Leu				
	85	90	95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 139  
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 <212> DNA  
 <213> Homo sapiens

<220>  
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 <222> (1)...(498)

<400> 139  
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 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gta gaa gat tgc tca ctg aac gag act att act gta ccg gat acg aaa 144  
 Val Glu Asp Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta act tcc agt cag gct ccg gaa caa tta cag ttg 288  
 Gln Thr Leu Leu Val Thr Ser Ser Gln Ala Arg Glu Gln Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr  
 145 150 155 160  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 140  
 <211> 165  
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 <213> Homo sapiens

<400> 140  
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 20 25 30  
 Val Glu Asp Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Thr Ser Ser Gln Ala Arg Glu Gln Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 141  
 <211> 498  
 <212> DNA  
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<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 141  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag agt att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240																	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly																	
65					70				75							80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288																	
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu																	
				85				90						95			
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336																	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu																	
			100					105					110				
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384																	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala																	
			115					120					125				
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432																	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu																	
			130					135					140				
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg 480																	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr																	
145					150				155							160	
ggg gag gct tgt cgc tga 498																	
Gly Glu Ala Cys Arg *																	
					165												

<210> 142  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 142

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
1				5				10					15				
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys		
			20					25					30				
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Ser	Ile	Thr	Val	Pro	Asp	Thr	Lys		
			35					40					45				
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75						80		
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
			115					120					125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		

130		135		140
Phe Arg Val Tyr Ser	Asn Phe Leu Arg Gly	Lys Leu Lys Phe Tyr Thr		
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 143  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 143

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa act atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc cgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta act tcc agt cag gct tgg gaa cga tta cag ttg	288
Gln Thr Leu Leu Val Thr Ser Ser Gln Ala Trp Glu Arg Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg	480
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 144

<211> 165

<212> PRT

<213> Homo sapiens

<400> 144

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
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Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40					45				
Val	Asn	Phe	Tyr	Ala	Arg	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55				60					
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Thr	Ser	Ser	Gln	Ala	Trp	Glu	Arg	Leu	Gln	Leu
			85					90						95	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100				105						110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115				120						125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130					135				140					
Phe	Arg	Val	Tyr	Pro	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Val	Tyr	Thr
145					150				155					160	
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 145

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 145

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa
1				5					10				15		
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	act	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys
			20				25						30		



gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 146  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 146

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys	
20 25 30	
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	

His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                                  105                                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                                  120                                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                   130                                  135                                  140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145                                  150                                  155                                  160  
 Gly Glu Ala Cys Arg  
                                   165

<210> 147  
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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 147  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
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 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                                   20                                  25                                  30  
  
 gta gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Val Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
                                   35                                  40                                  45  
  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                                  55                                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cag ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Gln Gly  
   65                                  70                                  75                                  80  
  
 caa act tta ctg gta aat tcc agt cag cct tgg gaa cta tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Leu Leu Gln Leu  
                                   85                                  90                                  95  
  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                                  105                                  110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                                  120                                  125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 148  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Val Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Gln Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Leu Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 149  
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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 149  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag agt att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 150  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 150  
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 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60	
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly			
65		70		75	80
Gln Thr Leu Leu Val	Asn Ser Ser Gln Pro	Trp Glu Pro Leu Gln Leu			
	85		90		95
His Val Asp Lys Ala Val	Ser Gly Leu Arg Ser	Leu Thr Thr Leu Leu			
	100		105		110
Arg Ala Leu Gly Ala Gln	Lys Glu Ala Ile Ser	Pro Pro Asp Ala Ala			
	115		120		125
Ser Ala Ala Pro Leu Arg	Thr Ile Thr Ala Asp	Thr Phe Arg Lys Leu			
	130		135		140
Phe Arg Val Tyr Ser Asn	Phe Leu Arg Gly Lys	Leu Lys Leu Tyr Thr			
145		150		155	160
Gly Glu Ala Cys Arg					
	165				

<210> 151  
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<220>  
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 <222> (1)...(498)

<400> 151	
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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
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aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat gcg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys	
35 40 45	
gtc aac gta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag tct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cac act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu His Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
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<210> 152  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 152  
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 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
 35 40 45  
 Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu His Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 153  
 <211> 498  
 <212> DNA  
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<220>  
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 <222> (1)...(498)

<400> 153

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Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1				5					10					15		

aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt	96
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys	
		20					25					30				

gca	gaa	cat	tgc	tca	ctg	aac	gag	att	att	act	gta	ccg	gat	acg	aaa	144
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Ile	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35				40					45					

gtc	aac	ttt	tat	gcc	tgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					

gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggc	240
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
	65				70				75					80		

caa	act	tta	ctg	gta	aat	tcc	agt	cag	gct	tgg	gaa	cca	tta	cag	ttg	288
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Ala	Trp	Glu	Pro	Leu	Gln	Leu	
			85					90						95		

cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
			100				105						110			

cgt	gca	ctg	ggc	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	
		115				120						125				

tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	
		130				135					140					

ttt	cgc	gtc	tac	tcc	aac	ttt	ttg	cgt	ggc	aaa	ctg	aaa	ctt	tat	acg	480
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr	
	145				150				155					160		

ggc	gag	gct	tgt	cgc	tga											498
Gly	Glu	Ala	Cys	Arg	*											
			165													

<210> 154

<211> 165

<212> PRT

<213> Homo sapiens

<400> 154

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	

Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                                  25                                  30  
 Ala Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Thr Lys  
                   35                                  40                                  45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                                  55                                  60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65                                  70                                  75                                  80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Ala Trp Glu Pro Leu Gln Leu  
                                   85                                  90                                  95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                                   100                                  105                                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                                  120                                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                   130                                  135                                  140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145                                  150                                  155                                  160  
 Gly Glu Ala Cys Arg  
                                   165

<210> 155  
 <211> 498  
 <212> DNA  
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<220>  
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 <222> (1) ... (498)

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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
   1                                  5                                  10                                  15  
  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                                  25                                  30  
  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat tcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys  
                   35                                  40                                  45  
  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                                  55                                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
                   65                                  70                                  75                                  80  
  
 caa act tta ctg gta att tcc agt cag cct ggg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Gly Glu Pro Leu Gln Leu  
                   85                                  90                                  95



cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgT gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggT gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 156  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 156															
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu															
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys															
20 25 30															
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys															
35 40 45															
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val															
50 55 60															
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly															
65 70 75 80															
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Gly Glu Pro Leu Gln Leu															
85 90 95															
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu															
100 105 110															
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala															
115 120 125															
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu															
130 135 140															
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr															
145 150 155 160															
Gly Glu Ala Cys Arg															
165															

<210> 157  
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<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 157

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac gta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 158

<211> 165

<212> PRT

<213> Homo sapiens

<400> 158

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1           5           10           15
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20           25           30
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
          35           40           45
Val Asn Val Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50           55           60
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
65           70           75           80
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
          85           90           95
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
          100          105          110
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
          115          120          125
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
          130          135          140
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
145          150          155          160
Gly Glu Ala Cys Arg
          165
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<210> 159

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 159

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1           5           10           15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt      96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
          20           25           30

gaa gaa tat tgc tca ctg aac gag act att act gta ccg gat acg aaa      144
Glu Glu Tyr Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys
          35           40           45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cgg gcg gtg      192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Arg Ala Val
          50           55           60

gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt      240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
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65	70	75	80	
caa act tta ctg gta att tcc agt cag tct agg gaa cga tta cag ttg				288
Gln Thr Leu Leu Val Ile Ser Ser Gln Ser Arg Glu Arg Leu Gln Leu				
	85	90	95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc				336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc				384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg				432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg				480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
	145	150	155	160
ggt gag gct tgt cgc tga				498
Gly Glu Ala Cys Arg *				
	165			

<210> 160  
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 <212> PRT  
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<400> 160

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu				
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys				
	20	25	30	
Glu Glu Tyr Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys				
	35	40	45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Arg Ala Val				
	50	55	60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly				
65	70	75	80	
Gln Thr Leu Leu Val Ile Ser Ser Gln Ser Arg Glu Arg Leu Gln Leu				
	85	90	95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145	150	155	160	
Gly Glu Ala Cys Arg				
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<210> 161  
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 <212> DNA  
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<220>  
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 <222> (1)...(498)

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 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag act att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 162  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 162  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 163  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gaa gaa cat tgc tca ctg aac gag att att act gta ccg gat acg aaa 144  
 Glu Glu His Cys Ser Leu Asn Glu Ile Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75						80		
caa	act	tta	ctg	gta	act	tcc	agt	cag	cct	agg	gaa	caa	tta	cag	ttg	288	
Gln	Thr	Leu	Leu	Val	Thr	Ser	Ser	Gln	Pro	Arg	Glu	Gln	Leu	Gln	Leu		
				85				90						95			
cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
cgt	gca	ctg	ggg	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
			115					120					125				
tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
			130					135					140				
ttt	cgc	gtc	tac	acc	aac	ttc	ttg	cgt	ggc	aaa	ctg	aaa	ttt	tat	acg	480	
Phe	Arg	Val	Tyr	Thr	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr		
145					150					155					160		
ggg	gag	gct	tgt	cgc	tga											498	
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 164  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 164

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
1				5					10					15			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys		
			20					25					30				
Glu	Glu	His	Cys	Ser	Leu	Asn	Glu	Ile	Ile	Thr	Val	Pro	Asp	Thr	Lys		
		35				40						45					
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75						80		
Gln	Thr	Leu	Leu	Val	Thr	Ser	Ser	Gln	Pro	Arg	Glu	Gln	Leu	Gln	Leu		
				85				90						95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
			115					120					125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		

130		135		140
Phe Arg Val Tyr Thr	Asn Phe Leu Arg Gly	Lys Leu Lys Phe Tyr Thr		
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 165  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1) ... (498)

<400> 165

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gta gaa gat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Val Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr	



145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 166

<211> 165

<212> PRT

<213> Homo sapiens

<400> 166

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Val	Glu	Asp	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40						45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55					60				
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
			85					90						95	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100					105					110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115					120					125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130					135					140				
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr
145					150				155					160	
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 167

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 167

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa
1				5					10					15	
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	act	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys
		20					25						30		

48

96

gca aaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Lys His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 168  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 168  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Lys His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95



Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 170  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 170  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Leu Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Thr Ser Ser Gln Pro Trp Glu Ser Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 171  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 171  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc cgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
cca act tta ctg gta act tcc agt cag cct tgg gaa cca tta cag ttg	288
Pro Thr Leu Leu Val Thr Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 172  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 172  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60	
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly			
65	70	75	80		
Pro Thr Leu Leu Val	Thr Ser Ser Gln Pro	Trp Glu Pro Leu Gln Leu			
	85	90	95		
His Val Asp Lys Ala	Val Ser Gly Leu Arg	Ser Leu Thr Thr Leu Leu			
	100	105	110		
Arg Ala Leu Gly Ala	Gln Lys Glu Ala Ile	Ser Pro Pro Asp Ala Ala			
	115	120	125		
Ser Ala Ala Pro Leu	Arg Thr Ile Thr Ala	Asp Thr Phe Arg Lys Leu			
	130	135	140		
Phe Arg Val Tyr Ser	Asn Phe Leu Arg Gly	Lys Leu Lys Leu Tyr Thr			
145	150	155	160		
Gly Glu Ala Cys Arg					
	165				

<210> 173  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 173	
atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag act att act gta ccg gat tcg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Ser Lys	
35 40 45	
gtc aac cta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa aat tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Asn Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac acc aac ttc ttg cgt ggc aaa ctg aat ctt tat acg 480  
 Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Asn Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 174  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 174  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Ser Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Asn Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Asn Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 175  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 175  
atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt 96  
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
20 25 30

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat tcg aaa 144  
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys  
35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
65 70 75 80

caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg 288  
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384  
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
130 135 140

ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg 480  
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr  
145 150 155 160

ggt gag gct tgt cgc tga 498  
Gly Glu Ala Cys Arg \*  
165

<210> 176  
<211> 165  
<212> PRT  
<213> Homo sapiens

<400> 176  
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
1 5 10 15



Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
                   20                  25                  30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys  
                   35                  40                  45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65                  70                  75                  80  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                   85                  90                  95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                  105                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                  120                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                   130                  135                  140  
 Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr  
 145                  150                  155                  160  
 Gly Glu Ala Cys Arg  
                   165

<210> 177  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 177  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
   1                  5                  10                  15  
  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                  25                  30  
  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat gcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
                   35                  40                  45  
  
 gtc aac cta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
                   65                  70                  75                  80  
  
 caa act tta ctg gta aat tcc agt cag tct tgg gaa cga tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Trp Glu Arg Leu Gln Leu  
                   85                  90                  95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 178  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 178  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Trp Glu Arg Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 179  
 <211> 498  
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 179

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat tcg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys	
35 40 45	
gtc aac atc tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Ile Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggt aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 180

<211> 165

<212> PRT

<213> Homo sapiens

<400> 180

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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1          5          10          15
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys
          20          25          30
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ser Lys
          35          40          45
Val Asn Ile Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50          55          60
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
65          70          75          80
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
          85          90          95
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
          100          105          110
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
          115          120          125
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
          130          135          140
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
145          150          155          160
Gly Glu Ala Cys Arg
          165
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<210> 181

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 181

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atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa   48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
 1          5          10          15

aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt   96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys
          20          25          30

gca gaa cat tgt tca ctg aac gag aat att act gta ccg gat gcg aaa   144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys
          35          40          45

gtc aac ttg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg   192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
          50          55          60

gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt   240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
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65	70	75	80	
caa act tta ctg gta aat tcc agt cag tct tgg gaa cca tta cag ttg	288			
Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu				
85 90 95				
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336			
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
100 105 110				
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384			
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
115 120 125				
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432			
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
130 135 140				
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480			
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr				
145 150 155 160				
ggt gag gct tgt cgc tga	498			
Gly Glu Ala Cys Arg *				
165				

<210> 182  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 182

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
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Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys	
20 25 30	
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Ala Lys	
35 40 45	
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Ser Trp Glu Pro Leu Gln Leu	
85 90 95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
Gly Glu Ala Cys Arg	
165	

<210> 183  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 183  
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 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa agt atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30

gga gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Gly Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45

gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60

gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80

caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110

cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125

tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg 480  
 Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160

ggg gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 184  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 184  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys  
 20 25 30  
 Gly Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 185  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 185  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
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 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gta gaa aat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Val Glu Asn Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192

Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggc	240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75					80			
caa	act	tta	ctg	gta	aat	tcc	agt	cag	tct	agg	gaa	cca	tta	cag	ttg	288	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Ser	Arg	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
cac	gtg	gat	aag	gcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
cgt	gca	ctg	ggc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc		384	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115					120					125					
tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
		130				135					140						
ttt	cgc	gtc	tac	acc	aac	ttc	ttg	cgt	ggc	aaa	ctg	aaa	gtt	tat	acg	480	
Phe	Arg	Val	Tyr	Thr	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Val	Tyr	Thr		
145					150				155					160			
ggc	gag	gct	tgt	cgc	tga											498	
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 186  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 186

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu		
1				5					10					15			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys		
			20					25					30				
Val	Glu	Asn	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys		
		35				40						45					
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70				75					80			
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Ser	Arg	Glu	Pro	Leu	Gln	Leu		
				85				90						95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
		115					120					125					
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		



130		135		140
Phe Arg Val Tyr Thr	Asn Phe Leu Arg Gly Lys	Leu Lys Val Tyr Thr		
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 187  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 187	
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Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa act atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Thr Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta agt tcc agt cag cct cgg gaa cga tta cag ttg	288
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Arg Glu Arg Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg	480
Phe Arg Val Tyr Ala Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 188

<211> 165

<212> PRT

<213> Homo sapiens

<400> 188

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys
		20					25						30		
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35				40						45			
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55					60				
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65				70					75					80	
Gln	Thr	Leu	Leu	Val	Ser	Ser	Ser	Gln	Pro	Arg	Glu	Arg	Leu	Gln	Leu
			85					90						95	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
		100					105						110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
	115					120					125				
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130				135					140					
Phe	Arg	Val	Tyr	Ala	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Val	Tyr	Thr
145					150				155						160
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 189

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 189

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa
1			5					10					15		
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	agt	atc	acc	aca	ggc	tgt
			20				25					30			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ser	Ile	Thr	Thr	Gly	Cys

gaa gaa gat tgc tca ctg aac gag aat att act gta ccg gat ccg aaa	144
Glu Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Pro Lys	
35 40 45	
gtc aac atg tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Met Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag tct agg gaa cta tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Ser Arg Glu Leu Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac acc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 190  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 190

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys	
20 25 30	
Glu Glu Asp Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Pro Lys	
35 40 45	
Val Asn Met Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
Gln Thr Leu Leu Val Ile Ser Ser Gln Ser Arg Glu Leu Leu Gln Leu	
85 90 95	

His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                  105                  110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                  120                  125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
                   130                  135                  140  
 Phe Arg Val Tyr Thr Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145                  150                  155                  160  
 Gly Glu Ala Cys Arg  
                                   165

<210> 191  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 191  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
   1                  5                  10                  15  
  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
                   20                  25                  30  
  
 gca gaa cat tgc tca ctg aac gag act att act gta ccg gat gcg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Ala Lys  
                   35                  40                  45  
  
 gtc aac att tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Ile Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
                   50                  55                  60  
  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
   65                  70                  75                  80  
  
 caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg 288  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
                   85                  90                  95  
  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
                   100                  105                  110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
                   115                  120                  125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140

ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160

ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 192  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 192  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Thr Ile Thr Val Pro Asp Ala Lys  
 35 40 45  
 Val Asn Ile Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 193  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 193  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15

aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc cgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta act tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Thr Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 194  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 194  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Arg Lys Arg Met Glu Val Gly Gln Gln Ala Val

50		55		60	
Glu Val Trp Gln Gly	Leu Ala Leu Leu Ser	Glu Ala Val Leu Arg Gly			
65		70		75	80
Gln Thr Leu Leu Val	Thr Ser Ser Gln Pro	Trp Glu Pro Leu Gln Leu			
	85		90		95
His Val Asp Lys Ala Val	Ser Gly Leu Arg Ser	Leu Thr Thr Leu Leu			
	100		105		110
Arg Ala Leu Gly Ala Gln	Lys Glu Ala Ile Ser	Pro Pro Asp Ala Ala			
	115		120		125
Ser Ala Ala Pro Leu Arg	Thr Ile Thr Ala Asp	Thr Phe Arg Lys Leu			
	130		135		140
Phe Arg Val Tyr Ser Asn	Phe Leu Arg Gly Lys	Leu Lys Ile Tyr Thr			
145		150		155	160
Gly Glu Ala Cys Arg					
	165				

<210> 195  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 195	
atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta agt tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	

cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg cca tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 196  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 196  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 197  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)



<400> 197

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	tta	gaa	48
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1			5				10						15			

aga	tac	ctg	ttc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt	96
Arg	Tyr	Leu	Phe	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys	
		20					25						30			

gca	gaa	tat	tgc	tca	ctg	aac	gag	aat	att	act	gta	ccg	gat	acg	aaa	144
Ala	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35					40						45			

gtc	aac	ttt	tat	gcc	cgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Asn	Phe	Tyr	Ala	Arg	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					

gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
65					70					75					80	

caa	act	tta	ctg	gta	att	tcc	agt	cag	cct	tgg	gaa	cca	tta	cag	ttg	288
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	
			85						90					95		

cac	gtg	gat	aag	tcg	gtt	tct	ggc	ctg	cgc	agc	ctt	acc	acg	ctg	ctc	336
His	Val	Asp	Lys	Ser	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	
		100					105						110			

cgt	gca	ctg	ggg	gcc	caa	aaa	gaa	gct	atc	tcg	ccg	cct	gac	gcg	gcc	384
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	
		115					120						125			

tca	gca	gcg	ccg	tta	cgc	act	att	aca	gcc	gat	acc	ttc	cgt	aaa	ctg	432
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	
		130					135						140			

ttt	cgc	gtc	tac	tcc	aac	ttc	ttg	cgt	ggc	aaa	ctg	aaa	ttt	tat	acg	480
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr	
145					150					155					160	

ggg	gag	gct	tgt	cgc	tga											498
Gly	Glu	Ala	Cys	Arg	*											
			165													

<210> 198

<211> 165

<212> PRT

<213> Homo sapiens

<400> 198

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1			5				10						15		

Arg	Tyr	Leu	Phe	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
		20						25					30		
Ala	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
	35						40					45			
Val	Asn	Phe	Tyr	Ala	Arg	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
	50					55					60				
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65					70					75				80	
Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
			85					90						95	
His	Val	Asp	Lys	Ser	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
		100					105					110			
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
	115						120					125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
	130					135					140				
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Phe	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
					165										

<210> 199  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 199																
atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa	48
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1				5					10					15		
aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt															96	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys	
			20					25					30			
gca gaa tat tgc tca ctg aac gag aat att act gta ccg gat acg aaa															144	
Ala	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	
		35					40					45				
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg															192	
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
	50					55					60					
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt															240	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	
65					70					75				80		
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg															288	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	
				85					90					95		

cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 200  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 200  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 201  
 <211> 498  
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 201

atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gga gaa tat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Gly Glu Tyr Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac gta tat gcc tgg gaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Val Tyr Ala Trp Glu Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggt gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 202

<211> 165

<212> PRT

<213> Homo sapiens

<400> 202

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
			20					25						30	
Gly	Glu	Tyr	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
		35					40						45		
Val	Asn	Val	Tyr	Ala	Trp	Glu	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
		50					55					60			
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65					70					75					80
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu
				85					90					95	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100					105					110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115					120					125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
		130				135					140				
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 203

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 203

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa	48
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	
1				5					10					15		
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	aat	atc	acc	aca	ggc	tgt	96
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys	
			20					25						30		
gca	gaa	cat	tgc	tta	ctg	aac	gag	att	att	act	gta	ccg	gat	tcg	aaa	144
Ala	Glu	His	Cys	Leu	Leu	Asn	Glu	Ile	Ile	Thr	Val	Pro	Asp	Ser	Lys	
		35					40						45			
gtc	aac	ttg	tat	gcc	tgg	aaa	cga	atg	gaa	gtt	gga	caa	cag	gcg	gtg	192
Val	Asn	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val	
		50					55				60					
gaa	gtt	tgg	cag	ggg	ctt	gcc	ctg	ttg	tcg	gag	gca	gtc	ctg	cgg	ggg	240
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	

65	70	75	80	
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg				288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc				336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc				384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg				432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa ttt tat acg				480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr				
	145	150	155	160
ggg gag gct tgt cgc tga				498
Gly Glu Ala Cys Arg *				
	165			

<210> 204  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 204

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu				
1	5	10	15	
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys				
	20	25	30	
Ala Glu His Cys Leu Leu Asn Glu Ile Ile Thr Val Pro Asp Ser Lys				
	35	40	45	
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val				
	50	55	60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly				
65	70	75	80	
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu				
	85	90	95	
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu				
	100	105	110	
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala				
	115	120	125	
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu				
	130	135	140	
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Phe Tyr Thr				
145	150	155	160	
Gly Glu Ala Cys Arg				
	165			

<210> 205  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 205  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag agt att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac cta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 caa act tta ctg gta agt tcc agt cag tct agg gaa caa tta cag ttg 288  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Ser Arg Glu Gln Leu Gln Leu  
 85 90 95  
 cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa gtt tat acg 480  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
 ggt gag gct tgt cgc tga 498  
 Gly Glu Ala Cys Arg \*  
 165

<210> 206  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 206  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu  
 1 5 10 15  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys  
 20 25 30  
 Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val  
 50 55 60  
 Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly  
 65 70 75 80  
 Gln Thr Leu Leu Val Ser Ser Ser Gln Ser Arg Glu Gln Leu Gln Leu  
 85 90 95  
 His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu  
 100 105 110  
 Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala  
 115 120 125  
 Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu  
 130 135 140  
 Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Val Tyr Thr  
 145 150 155 160  
 Gly Glu Ala Cys Arg  
 165

<210> 207  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 207  
 atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gta 48  
 Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Val  
 1 5 10 15  
 aga tac ctg ctc gaa gcg aaa gag gct gaa att atc acc aca ggc tgt 96  
 Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ile Ile Thr Thr Gly Cys  
 20 25 30  
 gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa 144  
 Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys  
 35 40 45  
 gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg 192



Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt 240																	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70					75				80			
caa act tta ctg gta aat tcc agt cag cct tgg gaa cca tta cag ttg 288																	
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85					90					95			
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc 336																	
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc 384																	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
			115				120					125					
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg 432																	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		
			130			135					140						
ttt cgc gtc tac gcc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg 480																	
Phe	Arg	Val	Tyr	Ala	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr		
145					150					155				160			
ggg gag gct tgt cgc tga 498																	
Gly	Glu	Ala	Cys	Arg	*												
				165													

<210> 208  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 208

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Val		
1				5					10					15			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ile	Ile	Thr	Thr	Gly	Cys		
			20				25						30				
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys		
			35			40						45					
Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val		
50						55					60						
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly		
65					70					75				80			
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu		
				85					90					95			
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu		
			100					105					110				
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala		
			115				120					125					
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu		

130		135		140	
Phe Arg Val Tyr Ala Asn	Phe Leu Arg Gly Lys	Leu Lys Leu Tyr Thr			
145	150	155		160	
Gly Glu Ala Cys Arg					
	165				

<210> 209  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(498)

<400> 209	
atg gat atc gcc ccg ccc cgt ctg att tgc gac agc agg gtg cta gaa	48
Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
aga tac ctg ctc gaa gcg aaa gag gct gaa aat atc acc aca ggc tgt	96
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys	
20 25 30	
gca gaa gat tgc tca ctg aac gag agt att act gta ccg gat tcg aaa	144
Ala Glu Asp Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Ser Lys	
35 40 45	
gtc aac tta tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Leu Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tcg gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta aat tcc agt cag cct ggg gaa caa tta cag ttg	288
Gln Thr Leu Leu Val Asn Ser Ser Gln Pro Gly Glu Gln Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tcg ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac tcc aac ttc ttg cgt ggc aaa ctg aaa att tat acg	480
Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Ile Tyr Thr	

145                      150                      155                      160

ggt gag gct tgt cgc tga                      498

Gly Glu Ala Cys Arg \*

165

<210> 210

<211> 165

<212> PRT

<213> Homo sapiens

<400> 210

Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
1				5					10					15	
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
			20					25						30	
Ala	Glu	Asp	Cys	Ser	Leu	Asn	Glu	Ser	Ile	Thr	Val	Pro	Asp	Ser	Lys
			35					40						45	
Val	Asn	Leu	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	Gln	Gln	Ala	Val
			50					55						60	
Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly
65					70					75					80
Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Gly	Glu	Gln	Leu	Gln	Leu
				85					90						95
His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100						105					110	
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
			115					120						125	
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
			130					135						140	
Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Ile	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
					165										

<210> 211

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(498)

<400> 211

atg	gat	atc	gcc	ccg	ccc	cgt	ctg	att	tgc	gac	agc	agg	gtg	cta	gaa
1				5					10					15	
Met	Asp	Ile	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
aga	tac	ctg	ctc	gaa	gcg	aaa	gag	gct	gaa	agt	atc	acc	aca	ggc	tgt
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Ser	Ile	Thr	Thr	Gly	Cys
				20					25					30	

48

96

gca gaa cat tgc tca ctg aac gag aat att act gta ccg gat acg aaa	144
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
gtc aac ttt tat gcc tgg aaa cga atg gaa gtt gga caa cag gcg gtg	192
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
gaa gtt tgg cag ggg ctt gcc ctg ttg tgc gag gca gtc ctg cgg ggt	240
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
caa act tta ctg gta att tcc agt cag cct tgg gaa cca tta cag ttg	288
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	
cac gtg gat aag gcg gtt tct ggc ctg cgc agc ctt acc acg ctg ctc	336
His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu	
100 105 110	
cgt gca ctg ggt gcc caa aaa gaa gct atc tgc ccg cct gac gcg gcc	384
Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala	
115 120 125	
tca gca gcg ccg tta cgc act att aca gcc gat acc ttc cgt aaa ctg	432
Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu	
130 135 140	
ttt cgc gtc tac ccc aac ttc ttg cgt ggc aaa ctg aaa ctt tat acg	480
Phe Arg Val Tyr Pro Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr	
145 150 155 160	
ggg gag gct tgt cgc tga	498
Gly Glu Ala Cys Arg *	
165	

<210> 212  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens

<400> 212

Met Asp Ile Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu	
1 5 10 15	
Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys	
20 25 30	
Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys	
35 40 45	
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val	
50 55 60	
Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly	
65 70 75 80	
Gln Thr Leu Leu Val Ile Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu	
85 90 95	

His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu
			100					105					110		
Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala
		115					120					125			
Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu
		130				135					140				
Phe	Arg	Val	Tyr	Pro	Asn	Phe	Leu	Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr
145					150					155					160
Gly	Glu	Ala	Cys	Arg											
				165											

<210> 213  
 <211> 1342  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (263)...(763)

<400> 213

cccgagacg	gaccggggcc	accgcgccc	ctctgctcc	acaccgcgc	ccctggacag	60
cgcacctc	ctccaggccc	gtggggctg	ccctgcacc	ccgagcttc	cgggatgagg	120
gccccgggtg	tggtcaccgc	gcgcgcccc	ggtcgctgag	ggaccccggc	caggcgcgga	180
gatgggggtg	cacgaatgtc	ctgcctggct	gtggcttctc	ctgtccctgc	tgctgctccc	240
tctgggcctc	ccagtctctg	gc gcc cca	cca cgc ctc	atc tgt gac	agc cga	292
		Ala Pro Pro	Arg Leu Ile	Cys Asp Ser	Arg	
		1	5		10	
gtc ctg gag	agg tac ctc	ttg gag gcc	aag gag gcc	gag aat atc	acg	340
Val Leu Glu	Arg Tyr Leu	Leu Glu Ala	Lys Glu Ala	Glu Asn Ile	Thr	
	15		20		25	
acg ggc tgt	gct gaa cac	tgc agc ttg	aat gag aat	atc act gtc	cca	388
Thr Gly Cys	Ala Glu His	Cys Ser Leu	Asn Glu Asn	Ile Thr Val	Pro	
	30		35		40	
gac acc aaa	gtt aat ttc	tat gcc tgg	aag agg atg	gag gtc ggg	cag	436
Asp Thr Lys	Val Asn Phe	Tyr Ala Trp	Lys Arg Met	Glu Val Gly	Gln	
	45		50		55	
cag gcc gta	gaa gtc tgg	cag ggc ctg	gcc ctg ctg	tcg gaa gct	gtc	484
Gln Ala Val	Glu Val Trp	Gln Gly Leu	Ala Leu Leu	Ser Glu Ala	Val	
	60		65		70	
ctg cgg ggc	cag gcc ctg	ttg gtc aac	tct tcc cag	ccg tgg gag	ccc	532
Leu Arg Gly	Gln Ala Leu	Leu Val Asn	Ser Ser Gln	Pro Trp Glu	Pro	
	75		80		85	90
ctg cag ctg	cat gtg gat	aaa gcc gtc	agt ggc ctt	cgc agc ctc	acc	580
Leu Gln Leu	His Val Asp	Lys Ala Val	Ser Gly Leu	Arg Ser Leu	Thr	
	95		100		105	
act ctg ctt	cgg gct ctg	cga gcc cag	aag gaa gcc	atc tcc cct	cca	628

Thr Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro  
110 115 120

gat gcg gcc tca gct gct cca ctc cga aca atc act gct gac act ttc 676  
Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe  
125 130 135

cgc aaa ctc ttc cga gtc tac tcc aat ttc ctc cgg gga aag ctg aag 724  
Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys  
140 145 150

ctg tac aca ggg gag gcc tgc agg aca ggg gac aga tga ccaggtgtgt 773  
Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Arg \*  
155 160 165

ccacctgggc atatccacca cctccctcac caacattgct tgtgccacac cctccccgc 833  
cactcctgaa ccccgctcgag gggctctcag ctcagcgcca gcctgtccca tggacactcc 893  
agtgccagca atgacatctc agggggccaga ggaactgtcc agagagcaac tctgagatct 953  
aaggatgtca cagggccaac ttgagggccc agagcaggaa gcattcagag agcagcttta 1013  
aactcagggga cagagccatg ctgggaagac gcctgagctc actcggcacc ctgcaaaatt 1073  
tgatgccagg acacgctttg gagggcattt acctgttttc gcacctacca tcagggacag 1133  
gatgacctgg agaacttagg tggcaagctg tgacttctcc aggtctcacg ggcattgggca 1193  
ctcccttggt ggcaagagcc cccttgacac cggggtggtg ggaaccatga agacaggatg 1253  
ggggtggtg tctggctctc atggggtcca agttttgtgt attcttcaac ctcattgaca 1313  
agaactgaaa ccaccaaaaa aaaaaaaaaa 1342

<210> 214  
<211> 166  
<212> PRT  
<213> Homo sapiens

<400> 214  
Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu  
1 5 10 15  
Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His  
20 25 30  
Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe  
35 40 45  
Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val Trp  
50 55 60  
Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu  
65 70 75 80  
Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp  
85 90 95  
Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu  
100 105 110  
Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala  
115 120 125  
Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val  
130 135 140  
Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala  
145 150 155 160  
Cys Arg Thr Gly Asp Arg  
165

<210> 215  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 215  
 caggaattct gtttggaac tgtc 24

<210> 216  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 216  
 actctcatatc catggaagct tgca 24

<210> 217  
 <211> 567  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(567)

<400> 217  
 atg ggc gtg cac gag tgc ccc gcc tgg ctg tgg ctg ctg ctg agc ctg 48  
 Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu  
 1 5 10 15  
 ctg agc ctg ccc ctg ggc ctg ccc gtg ctg ggc gcc ccc ccc cgg ctg 96  
 Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu  
 20 25 30  
 atc tgc gac agc cgg gtg ctg gag cgg tac ctg ctg gag gcc aag gag 144  
 Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu  
 35 40 45  
 gcc gag acc atc acc acc ggc tgc gtg gag gac tgc agc ctg aac gag 192  
 Ala Glu Thr Ile Thr Thr Gly Cys Val Glu Asp Cys Ser Leu Asn Glu  
 50 55 60  
 aac atc acc gtg ccc gac acc aag gtg aac ttc tac gcc cgg aag cgg 240  
 Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Arg Lys Arg  
 65 70 75 80  
 atg gag gtg ggc cag cag gcc gtg gag atc tgg cag ggc ctg gcc ctg 288  
 Met Glu Val Gly Gln Gln Ala Val Glu Ile Trp Gln Gly Leu Ala Leu

85										90					95					
ctg	agc	gag	gcc	gtg	ctg	cgg	ggc	cag	acc	ctg	ctg	gtg	atc	agc	agc	336				
Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser					
			100					105					110							
cag	ccc	tgg	gag	ccc	ctg	cag	ctg	cac	gtg	gac	aag	gcc	gtg	agc	ggc	384				
Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	His	Val	Asp	Lys	Ala	Val	Ser	Gly					
		115					120					125								
ctg	cgg	agc	ctg	acc	acc	ctg	ctg	cgg	gcc	ctg	ggc	gcc	cag	aag	gag	432				
Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu					
	130					135					140									
gcc	atc	agc	ccc	ccc	gac	gcc	gcc	agc	gcc	gcc	ccc	ctg	cgg	acc	atc	480				
Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile					
145					150				155						160					
acc	gcc	gac	acc	ttc	cgg	aag	ctg	ttc	cgg	gtg	tac	agc	aac	ttc	ctg	528				
Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu					
				165				170						175						
cgg	ggc	aag	ctg	aag	ctg	tac	acc	ggc	gag	gcc	tgc	cgg				567				
Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr	Gly	Glu	Ala	Cys	Arg								
			180					185												

<210> 218  
 <211> 189  
 <212> PRT  
 <213> Homo sapiens

<400> 218

Met	Gly	Val	His	Glu	Cys	Pro	Ala	Trp	Leu	Trp	Leu	Leu	Leu	Ser	Leu
1				5				10						15	
Leu	Ser	Leu	Pro	Leu	Gly	Leu	Pro	Val	Leu	Gly	Ala	Pro	Pro	Arg	Leu
			20					25					30		
Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu
		35				40						45			
Ala	Glu	Thr	Ile	Thr	Thr	Gly	Cys	Val	Glu	Asp	Cys	Ser	Leu	Asn	Glu
	50					55					60				
Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys	Val	Asn	Phe	Tyr	Ala	Arg	Lys	Arg
65					70				75					80	
Met	Glu	Val	Gly	Gln	Gln	Ala	Val	Glu	Ile	Trp	Gln	Gly	Leu	Ala	Leu
				85				90					95		
Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	Gln	Thr	Leu	Leu	Val	Ile	Ser	Ser
			100				105						110		
Gln	Pro	Trp	Glu	Pro	Leu	Gln	Leu	His	Val	Asp	Lys	Ala	Val	Ser	Gly
		115				120						125			
Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu
	130					135					140				
Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile
145					150				155						160
Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu
				165				170						175	



Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg  
 180 185

<210> 219  
 <211> 567  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(567)

<400> 219  
 atg ggc gtg cac gag tgc ccc gcc tgg ctg tgg ctg ctg ctg agc ctg 48  
 Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu  
 1 5 10 15

ctg agc ctg ccc ctg ggc ctg ccc gtg ctg ggc gcc ccc ccc cgg ctg 96  
 Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu  
 20 25 30

atc tgc gac agc cgg gtg ctg gag cgg tac ctg ctg gag gcc aag gag 144  
 Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu  
 35 40 45

gcc gag acc atc acc acc ggc tgc gtg gag gac tgc agc ctg aac gag 192  
 Ala Glu Thr Ile Thr Thr Gly Cys Val Glu Asp Cys Ser Leu Asn Glu  
 50 55 60

aac atc acc gtg ccc gac acc aag gtg aac ttc tac gcc cgg aag cgg 240  
 Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Arg Lys Arg  
 65 70 75 80

atg gag gtg ggc cag cag gcc gtg gag atc tgg cag ggc ctg gcc ctg 288  
 Met Glu Val Gly Gln Gln Ala Val Glu Ile Trp Gln Gly Leu Ala Leu  
 85 90 95

ctg agc gag gcc gtg ctg cgg ggc cag acc ctg ctg gtg atc agc agc 336  
 Leu Ser Glu Ala Val Leu Arg Gly Gln Thr Leu Leu Val Ile Ser Ser  
 100 105 110

cag gtg aac gag acc ctg cag ctg cac gtg gac aag gcc gtg agc ggc 384  
 Gln Val Asn Glu Thr Leu Gln Leu His Val Asp Lys Ala Val Ser Gly  
 115 120 125

ctg cgg agc ctg acc acc ctg ctg cgg gcc ctg ggc gcc cag aag gag 432  
 Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu  
 130 135 140

gcc atc agc ccc ccc gac gcc gcc agc gcc gcc ccc ctg cgg acc atc 480  
 Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile  
 145 150 155 160

acc gcc gac acc ttc cgg aag ctg ttc cgg gtg tac agc aac ttc ctg 528  
 Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu

165	170	175	
cgg ggc aag ctg aag ctg tac acc ggc gag gcc tgc cgg			567
Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg			
180	185		

<210> 220  
 <211> 189  
 <212> PRT  
 <213> Homo sapiens

<400> 220  
 Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu  
 1 5 10 15  
 Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu  
 20 25 30  
 Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu  
 35 40 45  
 Ala Glu Thr Ile Thr Thr Gly Cys Val Glu Asp Cys Ser Leu Asn Glu  
 50 55 60  
 Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Arg Lys Arg  
 65 70 75 80  
 Met Glu Val Gly Gln Gln Ala Val Glu Ile Trp Gln Gly Leu Ala Leu  
 85 90 95  
 Leu Ser Glu Ala Val Leu Arg Gly Gln Thr Leu Leu Val Ile Ser Ser  
 100 105 110  
 Gln Val Asn Glu Thr Leu Gln Leu His Val Asp Lys Ala Val Ser Gly  
 115 120 125  
 Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu  
 130 135 140  
 Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile  
 145 150 155 160  
 Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu  
 165 170 175  
 Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg  
 180 185

<210> 221  
 <211> 567  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(567)

<400> 221		
atg ggc gtg cac gag tgc ccc gcc tgg ctg tgg ctg ctg ctg agc ctg		48
Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu		
1 5 10 15		
ctg agc ctg ccc ctg ggc ctg ccc gtg ctg ggc gcc ccc ccc cgg ctg		96
Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu		
20 25 30		

atc tgc gac agc cgg gtg ctg gag cgg tac ctg ctg gag gcc aag gag 144  
 Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu  
 35 40 45  
  
 gcc gag agc atc acc acc ggc tgc gcc gag cac tgc agc ctg aac gag 192  
 Ala Glu Ser Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu  
 50 55 60  
  
 aac atc acc gtg ccc gac agc aag gtg aac atg tac gcc tgg aag cgg 240  
 Asn Ile Thr Val Pro Asp Ser Lys Val Asn Met Tyr Ala Trp Lys Arg  
 65 70 75 80  
  
 atg gag gtg ggc cag cag gcc gtg gag gtg tgg cag ggc ctg gcc ctg 288  
 Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu  
 85 90 95  
  
 ctg agc gag gcc gtg ctg cgg ggc cag acc ctg ctg gtg aac agc agc 336  
 Leu Ser Glu Ala Val Leu Arg Gly Gln Thr Leu Leu Val Asn Ser Ser  
 100 105 110  
  
 cag ccc tgg gag ccc ctg cag ctg cac gtg gac aag gcc gtg agc ggc 384  
 Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly  
 115 120 125  
  
 ctg cgg agc ctg acc acc ctg ctg cgg gcc ctg ggc gcc cag aag gag 432  
 Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu  
 130 135 140  
  
 gcc atc agc ccc ccc gac gcc gcc agc gcc gcc ccc ctg cgg acc atc 480  
 Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile  
 145 150 155 160  
  
 acc gcc gac acc ttc cgg aag ctg ttc cgg gtg tac agc aac ttc ctg 528  
 Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu  
 165 170 175  
  
 cgg ggc aag ctg aag ctg tac acc ggc gag gcc tgc cgg 567  
 Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg  
 180 185

<210> 222  
 <211> 189  
 <212> PRT  
 <213> Homo sapiens

<400> 222  
 Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu  
 1 5 10 15  
 Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu  
 20 25 30  
 Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu  
 35 40 45  
 Ala Glu Ser Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu

50	55	60
Asn Ile Thr Val Pro Asp Ser Lys Val Asn Met Tyr Ala Trp Lys Arg		
65	70	75
Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu		80
	85	90
Leu Ser Glu Ala Val Leu Arg Gly Gln Thr Leu Leu Val Asn Ser Ser		95
	100	105
Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly		110
	115	120
Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu		125
	130	135
Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile		140
145	150	155
Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu		160
	165	170
Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg		175
	180	185

<210> 223  
 <211> 567  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(567)

<400> 223	
atg ggc gtg cac gag tgc ccc gcc tgg ctg tgg ctg ctg ctg agc ctg	48
Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu	
1 5 10 15	
ctg agc ctg ccc ctg ggc ctg ccc gtg ctg ggc gcc ccc ccc cgg ctg	96
Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu	
20 25 30	
atc tgc gac agc cgg gtg ctg gag cgg tac ctg ctg gag gcc aag gag	144
Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu	
35 40 45	
gcc gag agc atc acc acc ggc tgc gcc gag cac tgc agc ctg aac gag	192
Ala Glu Ser Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu	
50 55 60	
aac atc acc gtg ccc gac agc aag gtg aac atg tac gcc tgg aag cgg	240
Asn Ile Thr Val Pro Asp Ser Lys Val Asn Met Tyr Ala Trp Lys Arg	
65 70 75 80	
atg gag gtg ggc cag cag gcc gtg gag gtg tgg cag ggc ctg gcc ctg	288
Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu	
85 90 95	
ctg agc gag gcc gtg ctg cgg ggc cag acc ctg ctg gtg aac agc agc	336
Leu Ser Glu Ala Val Leu Arg Gly Gln Thr Leu Leu Val Asn Ser Ser	
100 105 110	

cag	gtg	aac	gag	acc	ctg	cag	ctg	cac	gtg	gac	aag	gcc	gtg	agc	ggc	384
Gln	Val	Asn	Glu	Thr	Leu	Gln	Leu	His	Val	Asp	Lys	Ala	Val	Ser	Gly	
		115					120					125				

ctg	cgg	agc	ctg	acc	acc	ctg	ctg	cgg	gcc	ctg	ggc	gcc	cag	aag	gag	432
Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	
	130					135					140					

gcc	atc	agc	ccc	ccc	gac	gcc	gcc	agc	gcc	gcc	ccc	ctg	cgg	acc	atc	480
Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	
145					150				155					160		

acc	gcc	gac	acc	ttc	cgg	aag	ctg	ttc	cgg	gtg	tac	agc	aac	ttc	ctg	528
Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	
			165					170					175			

cgg	ggc	aag	ctg	aag	ctg	tac	acc	ggc	gag	gcc	tgc	cgg				567
Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr	Gly	Glu	Ala	Cys	Arg				
		180					185									

<210> 224  
 <211> 189  
 <212> PRT  
 <213> Homo sapiens

<400> 224															
Met	Gly	Val	His	Glu	Cys	Pro	Ala	Trp	Leu	Trp	Leu	Leu	Leu	Ser	Leu
1				5					10					15	
Leu	Ser	Leu	Pro	Leu	Gly	Leu	Pro	Val	Leu	Gly	Ala	Pro	Pro	Arg	Leu
			20					25					30		
Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu	Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu
		35				40						45			
Ala	Glu	Ser	Ile	Thr	Thr	Gly	Cys	Ala	Glu	His	Cys	Ser	Leu	Asn	Glu
	50					55					60				
Asn	Ile	Thr	Val	Pro	Asp	Ser	Lys	Val	Asn	Met	Tyr	Ala	Trp	Lys	Arg
65				70					75					80	
Met	Glu	Val	Gly	Gln	Gln	Ala	Val	Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu
			85					90					95		
Leu	Ser	Glu	Ala	Val	Leu	Arg	Gly	Gln	Thr	Leu	Leu	Val	Asn	Ser	Ser
			100					105					110		
Gln	Val	Asn	Glu	Thr	Leu	Gln	Leu	His	Val	Asp	Lys	Ala	Val	Ser	Gly
		115				120						125			
Leu	Arg	Ser	Leu	Thr	Thr	Leu	Leu	Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu
	130					135					140				
Ala	Ile	Ser	Pro	Pro	Asp	Ala	Ala	Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile
145					150				155					160	
Thr	Ala	Asp	Thr	Phe	Arg	Lys	Leu	Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu
			165					170					175		
Arg	Gly	Lys	Leu	Lys	Leu	Tyr	Thr	Gly	Glu	Ala	Cys	Arg			
		180					185								

<210> 225  
 <211> 81

<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (1)...(81)

<400> 225  
atg ggc gtg cac gag tgc ccc gcc tgg ctg tgg ctg ctg ctg agc ctg 48  
Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu  
1 5 10 15  
  
ctg agc ctg ccc ctg ggc ctg ccc gtg ctg ggc 81  
Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly  
20 25

<210> 226  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 226  
Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu  
1 5 10 15  
Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly  
20 25